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(54) Bezeichnung des Gegenstandes  
Wärmedämmplatte

(71) Name und Wohnsitz des Inhabers  
Tonwarenindustrie Wiesloch AG, 6908 Wiesloch, DE

(74) Name und Wohnsitz des Vertreters  
Grünecker, A., Dipl.-Ing.; Kinkeldey, H.,  
Dipl.-Ing. Dr.-Ing.; Stockmair, W., Dipl.-Ing.  
Dr.-Ing. Ae.E. Cal Tech; Schumann, K., Dipl.-Phys.  
Dr.rer.nat.; Jakob, P., Dipl.-Ing.; Bezold, G.,  
Dipl.-Chem. Dr.rer.nat.; Meister, W., Dipl.-Ing.;  
Hilgers, H., Dipl.-Ing.; Meyer-Plath, H.,  
Dipl.-Ing. Dr.-Ing.; Ehnold, A., Dipl.-Ing.;  
Schuster, T., Dipl.-Phys., Pat.-Anwälte, 8000  
München

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## **Wärmedämmplatte**

### **Beschreibung**

Die Erfindung betrifft eine Wärmedämmplatte aus Kunststoffschäum, die zwischen zwei Dachsparren oder sonstigen Baukonstruktionen mit ihren zwei Längsrändern anliegt.

Die bekannten Wärmedämmplatten aus Kunststoffschäum werden zur Wärmeisolierung beispielsweise eines Daches zwischen Dachsparren oder anderen Wandkonstruktionen angebracht. Sie sollen einen Wärmeaustausch zwischen dem Dachraum und dem Freien weitgehend verhindern. Dazu ist es erforderlich, daß die Wärmedämmplatten dicht an den Dachsparren bzw. anderen Wandstützkonstruktionen anliegen, damit nicht durch Fugen Wärme nach außen auftreten kann. Um dies zu verhindern, müssen die bekannten Wärmedämmplatten dem Sparrenabstand angepaßt und mit besonderen Stütz- und Befestigungsstrukturen in ihrer Lage gehalten werden. Eine sichere Abdichtung ist aber häufig nicht gewährt, weil die Dachsparren nicht immer ganz gerade und zueinander parallel verlaufen.

Der Erfindung liegt die Aufgabe zugrunde, eine sichere Wärmedämmung und trotzdem ein einfacheres und schnelleres Verlegen der Wärmedämmplatten zu ermöglichen.

Zur Lösung dieser Aufgabe sieht die Erfindung bei einer Wärmedämmplatte nach dem Oberbegriff des Anspruchs 1 vor, daß die Wärmedämmplatte aus einem zwei Längsränder und zwei Querränder aufweisenden Kern aus Hartkunststoffschäum und aus einem Streifen aus elastisch verformbarem

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Weichkunststoffschaum besteht, welcher Streifen an einem der Längsränder angebracht ist.

Somit kann die Wärmedämmplatte in ihrer Breite elastisch verringert werden, wobei auch ein Ausgleich bei nicht ganz parallelen Sparren erfolgt. Die Wärmedämmplatte sitzt unter einer elastischen Vorspannung zwischen den beiden Sparren, so daß nicht nur eine sichere Abdichtung gewährleistet ist, sondern auch ein besonders einfaches Verlegen.

Eine optimale Abdichtung kann erreicht werden, wenn an jedem der zwei Längsränder des Kernes aus Hartkunststoffschaum ein Streifen aus elastisch verformbarem Weichkunststoffschaum gebracht ist. Dies führt nicht nur dazu, die Breite der Wärmedämmplatte noch mehr elastisch zu verringern, sondern auch dazu, daß sich die Streifen aus elastisch verformbarem Weichkunststoff Unebenheiten an den Sparren zuverlässig abdichtend anschließen.

Die Abdichtung kann außerdem dadurch noch weiter verbessert werden, daß die Wärmedämmplatte an mindestens einem Querrand einen Stufenfalz aufweist.

So bilden die in Längsrichtung miteinander verzahnten Wärmedämmplatten mit den Sparren eine fugenlose Fläche.

Die Wärmedämmplatte, d.h. sowohl der Kern aus Hartkunststoffschaum als auch die Längsstreifen aus Weichkunststoffschaum können aus Polyurethanschaum hergestellt sein. Dieser Kunststoff hat einen besonders hohen Dämmwert, so daß die Wärmedämmplatten eine verhältnismäßig geringe Plattendicke aufweisen, so daß beim Wärmedämmen eines Daches noch viel Platz für die

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geforderte Hinterlüftung bleibt.

Der Hartkunststoffschaum des Kerns kann geschlossene Poren, der Weichkunststoffschaum der Längsstreifen offene Poren aufweisen, wobei vorteilhaft die Poren des Hartkunststoffschaumes kleiner sind als diejenigen des Weichkunststoffschaumes.

So wird einerseits ein Kern von hoher Festigkeit, andererseits Streifen aus Weichkunststoffschaum mit hoher Elastizität erhalten.

Ein Ausführungsbeispiel der Erfindung wird im Nachfolgenden anhand der Zeichnung erläutert.

Dabei zeigen:

- Fig.1 eine Draufsicht auf die zwischen zwei Sparren eingeklemmte Wärmedämmplatte,
- Fig.2 einen Schnitt II-II durch die Wärmedämmplatte und die Sparren im montierten Zustand,
- Fig.3 eine Seitenansicht der Wärmedämmplatte,
- Fig.4 in vergrößertem Maßstab einen Ausschnitt X aus dem Werkstoff des Kerns der Wärmedämmplatte und
- Fig.5 einen Ausschnitt Y des Werkstoffs des elastisch verformbaren Streifens.

Wie aus Figur 1 ersichtlich, weist die Wärmedämmplatte wie üblich eine Rechteck-Form auf. Die Wärmedämmplatte besteht gemäß der Erfindung aus einem zwei Längsränder 1 und zwei Querränder 2 aufweisenden Kern 3 aus Hartkunststoffschaum

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und aus zwei Streifen 4 aus elastisch verformbarem Weichkunststoffschaum, welche Streifen 4 an den Längsrändern 1 der Platte angebracht sind.

Die Wärmedämmplatte ist zwischen zwei Dachsparren 5 eingeklemmt. Dabei sind die beiden Streifen 4 aus elastisch verformbarem Weichkunststoffschaum zusammengedrückt, so daß die Platte mit einer gewissen Vorspannung mit ihren Streifen 4 an den Sparren 5 anliegt. Bei der Verwendung von zwei elastisch verformbaren Streifen 4 kann durch Zusammenpressen die Breite der Dämmplatte beträchtlich verringert werden, auf jeden Fall bis zu etwa 6 cm.

Der Kern 3 aus Hartkunststoffschaum weist im Verhältnis zu den Streifen 4 eine große Breite auf, so daß die Festigkeit der Dämmplatte durch diesen Kern gewährleistet bleibt.

Als Werkstoff für die Dämmplatte hat sich besonders gut Polyurethanschaum erwiesen.

Wie in Figur 2 dargestellt, ist die Wärmedämmplatte auf der der Dachhaut zugewandten Außenseite mit einer Alufolie 6 abgedeckt, welche kürzer ist als die nicht zusammengepreßte Wärmedämmplatte.

Ferner ist auf der Innenseite der Wärmedämmplatte eine weitere Kunststoffolie 7 angebracht, die auf beiden Seiten der Wärmeplatte diese überragt.

Beim Montieren der Wärmeplatte wird diese zusammengepreßt, bis sie zwischen die zwei Sparren paßt und in diesen Zustand soweit eingeschoben, bis die Alufolie 7 mit ihren freien Rändern auf den Sparren 5 aufliegt. Die

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freien Ränder können dann auf einfachste Art und Weise beispielsweise durch festtackern, an den Sparren noch befestigt werden.

Im Beispiel nach Figur 2 tragen die elastisch verformbaren Streifen 4 an ihrer dem Sparren 5 zugewandten Außenseite einen am Streifen 4 befestigten, d.h. angeklebten Pappestreifen 8. Diese Pappestreifen erleichtern das Zusammenpressen der Dämmplatte auf ihrer ganzen Länge.

Die Festigkeit der Wärmedämmplatte kann außerdem noch dadurch verbessert werden, daß zwischen dem Kern 3 aus Hartkunststoffschaum und den Streifen 4 aus Weichkunststoffschaum ein Streifen 9 aus Hartpappe eingefügt ist, mit dem sowohl der Kern 3 als auch der Streifen 4 vorzugsweise durch Kleben fest verbunden ist.

In Figur 3 ist gezeigt, daß die Wärmedämmplatte an einem Querrand einen Stufenfalz 10 aufweisen kann, mit welchem die dort anstoßende Wärmedämmplatte mit einem entsprechend ausgebildeten Stufenfalz zusammenwirkt und auch den Querstoß zwischen zwei Dämmplatten fugenlos abdichtet.

In Figur 4 ist ein Schnitt durch den Werkstoff des Kerns 3 aus Hartpolyurethanschaum gezeigt. Die Poren 11 des Hartkunststoffschaums sind dabei verhältnismäßig klein.

Der in Figur 5 gezeigte Schnitt durch den Werkstoff des Weichkunststoffstreifens 4 aus Polyurethan weist dagegen wesentlich größere Poren 12 auf.

Dabei können die Poren 11 geschlossen, die Poren 12 dagegen offen sein.

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**Schutzansprüche**

1. Wärmedämmplatte aus Kunststoffschäum mit zwei Querrändern und zwei Längsrändern, mit denen die Wärmedämmplatte an Dachsparren oder sonstigen Baukonstruktionen anliegt, dadurch gekennzeichnet, daß die Wärmedämmplatte aus einem zwei Längsränder (1) und zwei Querränder (2) aufweisenden Kern (3) aus Hartkunststoffschaum und aus einem Streifen (4) aus elastisch verformbarem Weichkunststoffschaum besteht, welcher Streifen (4) an einem der Längsränder (1) des Kernes (3) angebracht ist.

2. Wärmedämmplatte nach Anspruch 1, dadurch gekennzeichnet, daß an jedem der beiden Längsränder (1) des Kernes (3) ein Streifen (4) aus elastisch verformbarem Weichkunststoffschaum angebracht ist.

3. Wärmedämmplatte nach Anspruch 1 oder 2, dadurch gekennzeichnet, daß der Kern (3) und die Streifen (4) aus Polyurethanschaum hergestellt sind.

4. Wärmedämmplatte nach mindestens einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, daß die Wärmedämmplatte an mindestens einem Querrand (2) einen Stufenfalz (10) aufweist.

5. Wärmedämmplatte nach mindestens einem der Ansprüche 1 bis 4,

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dadurch gekennzeichnet,

daß der Hartkunststoffschaum des Kerns (3) eine geringere Porengröße als der Weichkunststoffschaum des Streifens (4) aufweist.

6. Wärmedämmplatte nach mindestens einem der Ansprüche 1 bis 5,

dadurch gekennzeichnet,

daß der Hartkunststoffschaum des Kerns (3) geschlossene Poren aufweist.

7. Wärmedämmplatte nach mindestens einem der Ansprüche 1-6,

dadurch gekennzeichnet,

daß der Weichkunststoffschaum des Längsstreifens (4) offene Poren (12) aufweist.

8. Wärmedämmplatte nach mindestens einem der Ansprüche 1 bis 7,

dadurch gekennzeichnet,

daß der Hartkunststoffschaum des Kerns (3) eine geringere Porengröße als der Weichkunststoffschaum des Streifens (4) aufweist.

9. Wärmedämmplatte nach mindestens einem der Ansprüche 1 bis 8,

dadurch gekennzeichnet,

daß am freien äußeren Rand des Weichkunststoffschaumstreifens (4) ein Streifen (8) aus Pappe angeordnet ist.

10. Wärmedämmplatte nach mindestens einem der Ansprüche 1 bis 9,

dadurch gekennzeichnet,

daß zwischen dem Kern (3) und den Streifen (4) ein

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Streifen (9) aus Pappe angeordnet ist.

11. Wärmedämmplatte nach mindestens einem der Ansprüche 1 bis 10,

dadurch gekennzeichnet,

daß der Kern (3) und der bzw. die Längsrandstreifen (4) der Dämmplatte einstückig hergestellt sind.

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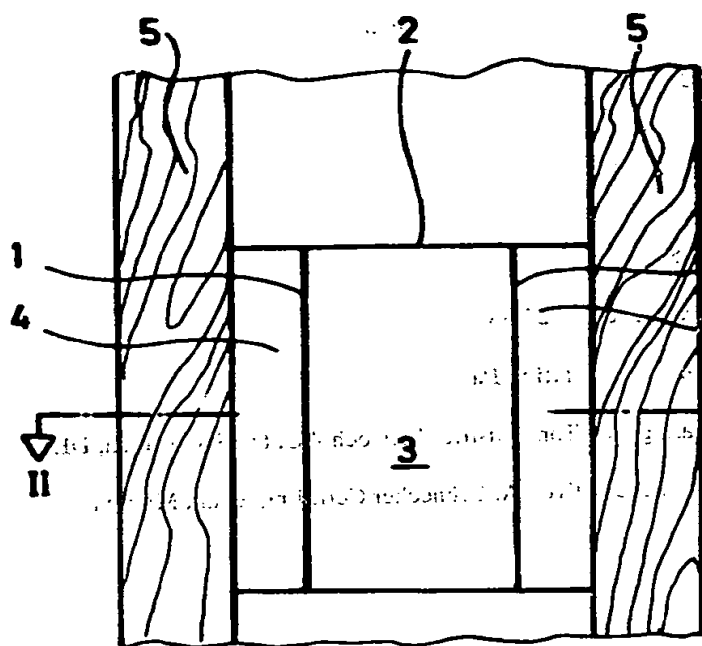


FIG. 1

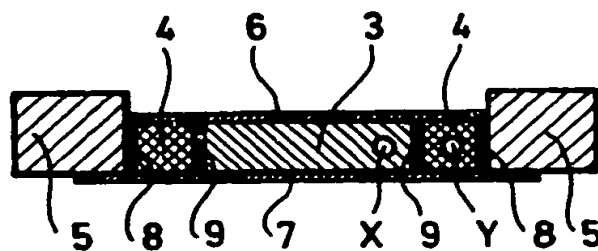


FIG. 2

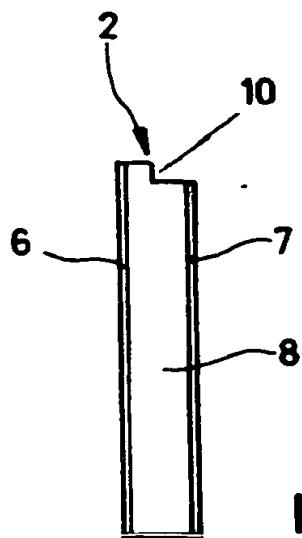


FIG. 3

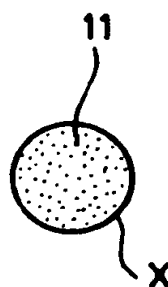


FIG. 4

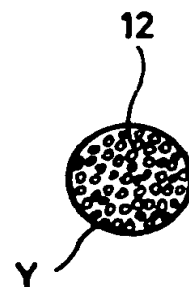


FIG. 5

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Federal Republic of Germany  
German Patent Office

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(54) Name of the Object: **Thermal Insulating Panel**

(71) Name and address of the assignee: Tonindustrie Wiesloch AG, 6908 Wiesloch, DE

(72) Name and address of the representative: A. Grünecker Cert. Eng. et al., Munich

1. The first group of islands is the group of islands in the Pacific Ocean, including the Hawaiian Islands, the Line Islands, the Marshall Islands, the Micronesia, and the Polynesia.

The first of these is the fact that the majority of the population of the United States is of European descent. This is a result of the fact that the United States was founded by people of European descent, and the majority of the population of the United States today is of European descent. This is a result of the fact that the United States was founded by people of European descent, and the majority of the population of the United States today is of European descent.

$\mathcal{L}(\mathbf{y}|\mathbf{X}) = \prod_{i=1}^n \mathcal{L}(y_i|\mathbf{X}_i)$  and  $\mathcal{L}(\mathbf{y}|\mathbf{X}) = \prod_{i=1}^n \mathcal{L}(y_i|\mathbf{X}_i)$

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As the homophony of the two terms is well known, the fact that the latter is not used in the literature is due to the fact that the word "homophony" is used in a different sense. But, as we have seen, the homophony of the two terms is not a problem in the present context.

the fact that the majority of the respondents were male, and that the majority of the respondents were from the same region. The results of the study are therefore not generalizable to the entire population of the country. The study also has some limitations. The sample size was small, and the study was conducted in a single region. The study also did not take into account the possibility of bias in the responses. The study was conducted in a single region, and the results may not be generalizable to the entire population of the country. The study also did not take into account the possibility of bias in the responses. The study was conducted in a single region, and the results may not be generalizable to the entire population of the country. The study also did not take into account the possibility of bias in the responses.

## **Thermal Insulating Panel**

### **Specification**

The invention pertains to a thermal insulating panel made of foamed plastic that lies with its two longitudinal edges in contact between two rafters other construction components.

The known thermal insulating panels made of foamed plastic are introduced for thermal insulation, for example of a roof, between rafters or other wall constructions. They are intended to largely prevent heat exchange between the roof space and the outdoors. For this purpose it is necessary that the thermal insulating panels are tightly adjacent to the rafters or other wall supporting constructions, so that heat cannot emerge to the outside through joints. To prevent this, the known thermal insulating panels must be adapted to the distance between rafters and held in position with special supporting and fastening constructions. However, reliable sealing is often not guaranteed, since the rafters are not always entirely straight and parallel to one another.

The invention is based on the goal of permitting reliable thermal insulation and nevertheless a simpler and more rapid laying of the thermal insulating panels.

To accomplish this goal, the invention provides, in a thermal insulating panel according to the governing concept of claim 1, that the thermal insulating panel consists of a core, having two longitudinal edges and two transverse edges made of hard plastic foam and a strip of elastically deformable soft plastic foam, which strip is attached to one of the longitudinal edges.

Thus the thermal insulating plate can have its width elastically reduced, whereby a compensation takes place in the case of rafters that are not entirely parallel. The thermal insulating panel sits under an elastic pretension between the two rafters, so that not only is a reliable sealing guaranteed, but also a particularly simple laying.

An optimal sealing can be achieved if a strip of elastically deformable soft plastic foam is attached to each of the two longitudinal edges of the core of hard plastic foam. This not only means that the width of the thermal insulating panel can be further elastically reduced, but also that the strips of elastically deformable soft plastic fit themselves in a reliably sealing manner to unevennesses on the rafters.

The sealing can also be further improved in that the thermal insulating panel has a step fold on at least one transverse edge.

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In this way, thermal insulating panels toothed together with one another in the longitudinal direction form a seamless surface with the rafters.

The thermal insulating plate, i.e., both the core of hard plastic foam and the longitudinal strips made of soft plastic foam, can be made from polyurethane foam. This plastic material has a particularly high insulating value, so that the thermal insulating panels have a relatively low panel thickness, and so that during the thermal insulation process of a roof, an abundance of space remains for the necessary back-ventilation.

The hard plastic foam of the core can have closed pores, and the soft plastic foam of the longitudinal strips can have open pores, wherein advantageously the pores of the hard plastic foam are smaller than those of the soft plastic foam.

Thus on one hand a core of high strength is obtained, and on the other hand, strips of soft plastic foam with high elasticity.

An exemplified embodiment of the invention will be explained in the following on the basis of the drawing.

This shows the following:

- Figure 1 a top view of the thermal insulating panel clamped between two rafters
- Figure 2 a section II-II through the thermal insulating panel and the rafters in the installed condition
- Figure 3 a side view of the thermal insulating panel
- Figure 4 an enlarged view of a section X from the material of the core of the thermal insulating panel and
- Figure 5 a section Y of the material of the elastically deformable strip.

As is apparent from Figure 1, the thermal insulating panel as usual has a rectangular shape. The thermal insulating panel consists according to the invention of a core 3 of hard plastic foam that has two longitudinal edges 1 and two transverse edges 2 and of two strips 4 of elastically deformable soft plastic foam, which strips 4 are attached to the longitudinal edges 1 of the panel.

The thermal insulating panel is clamped between two rafters 5. In this process, the two strips 4 of

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

2. The second step is to gather relevant information and data. This can involve research, consultation with experts, or collecting data from various sources.

3. The third step is to analyze the information and data collected. This involves identifying patterns, trends, and relationships that can help in understanding the problem.

4. The fourth step is to develop a solution or answer. This involves applying the analysis to the problem and proposing a course of action or a final answer.

5. The fifth step is to evaluate the solution or answer. This involves checking the solution against the original problem and requirements to ensure it is valid and effective.

6. The sixth step is to communicate the solution or answer. This involves presenting the findings in a clear and concise manner to the relevant stakeholders.

7. The seventh step is to monitor and evaluate the results of the solution. This involves tracking the progress and outcomes of the solution to ensure it is meeting the intended goals.

8. The eighth step is to document the process and results. This involves creating a record of the steps taken and the outcomes achieved, which can be used for future reference and learning.

9. The ninth step is to reflect on the process and results. This involves thinking about what worked well, what didn't, and what can be learned from the experience.

10. The tenth step is to share the results and lessons learned. This involves communicating the findings and insights to others, which can help in improving future performance and outcomes.

6. *Illegittimo* – un fatto che non può essere considerato legittimo, per esempio, un'azione che non è giustificata da una buona ragione.

1. *Equity* is the moral right to be treated fairly.

1. The following information is for the purpose of the "Statement of Financial Position" only. It is not to be used for any other purpose.

If the data are ungrouped, the mean is calculated as  $\frac{1}{n} \sum_{i=1}^n x_i$  and the variance as  $\frac{1}{n} \sum_{i=1}^n (x_i - \bar{x})^2$ , or, equivalently, as

The authors are grateful to the National Science Foundation (NSF) Grant DMR-0806797 for support of this work.

It is possible to construct a nondeformable surface  $S$  in  $\mathbb{R}^3$  that is not a graph of a function. For example, let  $S$  be the surface of revolution obtained by revolving the curve  $y = \cos x$  about the  $y$ -axis. Then  $S$  is a surface of revolution, and it is not a graph of a function.

1. The first part of the report, "Introduction", is a general overview of the project and its objectives. It discusses the importance of the research and the need for a comprehensive study of the subject.

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1. The proposed project is consistent with the general land use designations and policies in the adopted General Plan and the applicable elements of the General Plan, and is consistent with the policies of the applicable regional and state land use laws.

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elastically deformable soft plastic foam are compressed, so that the panel is adjacent with a certain pretension with its strips 4 against the rafters 5. When two elastically deformable strips 4 are used, the width of the insulating panel can be considerably reduced by pressing them together, in any case up to about 6 cm.

The core 3 of hard plastic foam has a great width in relation to the strips 4, so that the rigidity of the insulating panel is guaranteed by this core.

Polyurethane foam has proven particularly good as a material for the insulating panel.

As shown in Figure 2, the thermal insulating panel is covered with an aluminum foil 6 on the outer side facing the roof covering; this [foil] is shorter than the noncompressed thermal insulating panel.

In addition, another plastic film 7 is applied to the inside of the thermal insulating panel, which on both sides of the thermal panel projects beyond it.

During installation of the thermal panel, this is compressed until it fits between the two rafters and, in this state, is inserted until the aluminum foil 6 lies with its free edges on the rafters 5. The free edges can then be fastened to the rafters in the easiest way, for example by tacking.

In the example according to Figure 2, the elastically deformable strips 4, on their outer side facing the rafters 5, have a cardboard strip 8 fastened to the strip 4, i.e., glued to it. These cardboard strips facilitate the compression of the insulating panel over its entire length.

The rigidity of the thermal insulating panel can be further improved in that between the core 3 made of hard plastic foam and the strip 4 of soft plastic foam, a strip 9 of hard cardboard is introduced, with which both the core 3 and the strip 4 are firmly attached, preferably by gluing.

In Figure 3 it is shown that the thermal insulating panel can have a step fold 10 on one transverse edge, with which the thermal insulating panel contacting this interacts with a correspondingly formed step fold, and also seals the transverse joint between two insulating panels seamlessly.

In Figure 4, a section through the material of the core 3 made of hard polyurethane foam is shown. The pores 11 of the hard plastic foam in this case are relatively small.

The section, shown in Figure 5, through the material of the soft plastic strip 4 made of polyurethane, on the other hand, has substantially larger pores 12.

1. The first step is to identify the key components of the system. This includes understanding the hardware, software, and data involved.

2. The second step is to analyze the system's performance. This involves monitoring the system's output and comparing it to the expected results.

3. The third step is to identify the causes of any performance issues. This can be done by looking at the system's logs and analyzing the data.

4. The fourth step is to implement a solution to the problem. This may involve updating the software, changing the hardware, or modifying the data.

5. The fifth step is to test the solution. This involves running the system again and checking to see if the problem has been resolved.

6. The sixth step is to document the results. This involves writing a report that describes the problem, the solution, and the results of the testing.

7. The seventh step is to implement the solution. This involves making the changes to the system and ensuring that they are working correctly.

8. The eighth step is to monitor the system's performance. This involves continuing to monitor the system's output and comparing it to the expected results.

9. The ninth step is to identify any new issues. This involves looking at the system's logs and analyzing the data for any new problems.

10. The tenth step is to implement a solution to any new issues. This may involve updating the software, changing the hardware, or modifying the data.

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

2. Next, it is important to gather relevant information and data. This can be done through research, consultation with experts, or by analyzing existing data sets.

3. Once the information is gathered, the next step is to analyze it and identify the key factors that influence the outcome. This often involves using statistical methods or other analytical tools.

4. After analysis, the next step is to develop a plan or strategy to address the problem. This plan should be based on the findings of the analysis and should take into account the constraints and resources available.

5. The final step is to implement the plan and monitor the results. This involves putting the plan into action and tracking progress to ensure that the goals are being met.

6. Finally, it is important to evaluate the results and draw conclusions. This involves comparing the actual outcomes with the expected results and identifying any areas for improvement.

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In this case the pores 11 may be closed, whereas the pores 12 may be open.

#### **Claims**

Thermal insulating panel made of foamed plastic with two transverse edges and two longitudinal edges with which the thermal insulating panel lies against rafters or other constructions,

**characterized in that**

the thermal insulating plate consists of a core (3) of hard plastic foam that has two longitudinal edges (1) and two transverse edges (2) and a strip (4) of elastically deformable soft plastic foam, which strip (4) is attached to one of the longitudinal edges (1) of the core (3).

Thermal insulating panel in accordance with claim 1

**characterized in that**

on each of the two longitudinal edges (1) of the core (3), a strip (4) of elastically deformable soft plastic foam is attached.

Thermal insulating panel in accordance with claim 1 or 2

**characterized in that**

the core (3) and the strip (4) are made of polyurethane foam.

10 Thermal insulating panel in accordance with one of the claims 1 to 3

**characterized in that**

the thermal insulating panel has a step fold (10) on at least one transverse edge (2).

20 Thermal insulating panel in accordance with at least one of the claims 1 to 4

**characterized in that**

the hard plastic foam of the core (3) has a smaller pore size than the soft plastic foam of the strip (4).

30 Thermal insulating panel in accordance with at least one of the claims 1 to 5

**characterized in that**

the hard plastic foam of the core (3) has closed pores.

40 Thermal insulating panel in accordance with at least one of the claims 1 to 6

**characterized in that**

the soft plastic foam of the longitudinal strip (4) has open pores (12).

50 Thermal insulating panel in accordance with at least one of the claims 1 to 7

**characterized in that**

the hard foam plastic of the core (3) has a smaller pore size than the soft plastic foam of the strip (4).

60 Thermal insulating panel in accordance with one of the claims 1 to 8

**characterized in that**

on its free outer edge of the soft plastic strip (4), a strip (8) of cardboard is arranged.

1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

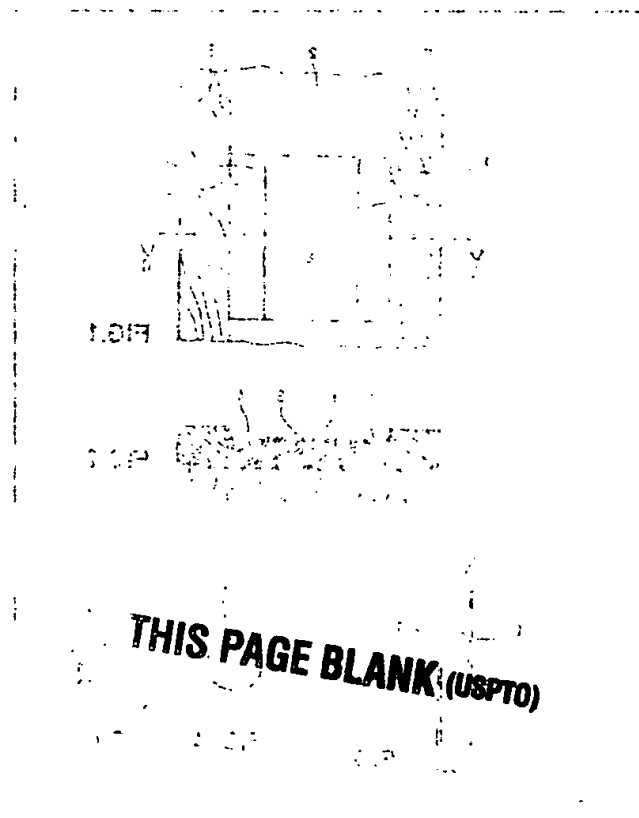
[illegible]

Figure 1. *Phragmites* and *Spartina* coverages in the marshes of the Sacramento-San Joaquin River Delta, California, 1990-1999. **a** = *Phragmites* coverage; **b** = *Spartina* coverage.

• **What are the major components of the cell membrane?**

1997, p. 100.

1. The first group of authors (see Table 1) has shown that the use of a single, non-validated questionnaire to assess the prevalence of mental health problems in the community is not sufficient to provide a reliable estimate of the prevalence of mental health problems in the community.



70 Thermal insulating panel in accordance with at least one of the claims 1 to 9

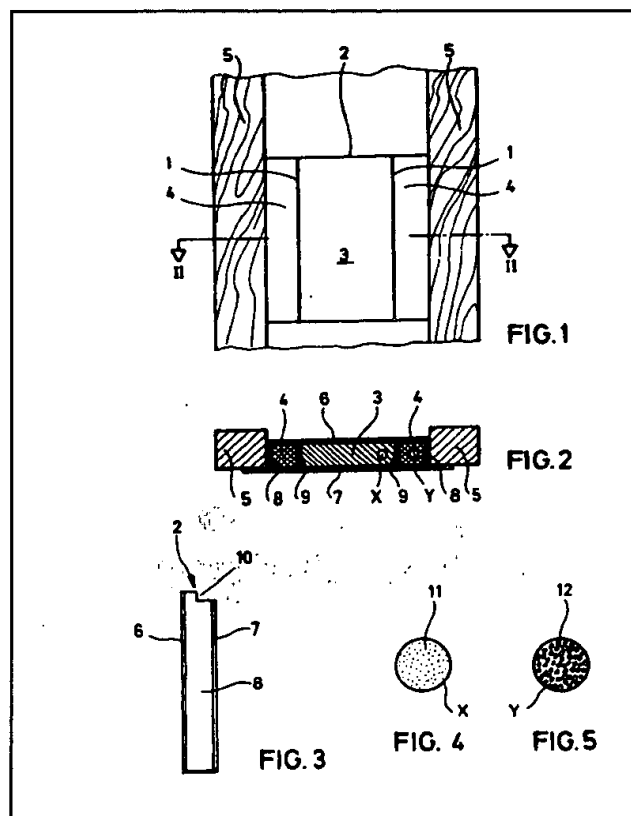
**characterized in that**

between the core (3) and the strip (4), a strip (9) of cardboard is arranged.

80 Thermal insulating panel in accordance with at least one of the claims 1 to 10

**characterized in that**

the core (3) and the longitudinal edge strip(s) 4 of the insulating plate are made in one piece.



1. The present invention relates to a method of

the following description.

2. The method of the present invention is

3. The method of the present invention is

4. The method of the present invention is

5. The method of the present invention is

6. The method of the present invention is

7. The method of the present invention is

8. The method of the present invention is

9. The method of the present invention is

10. The method of the present invention is

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